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THE MAGAZINE FOR METALWORKING MANAGEMENT

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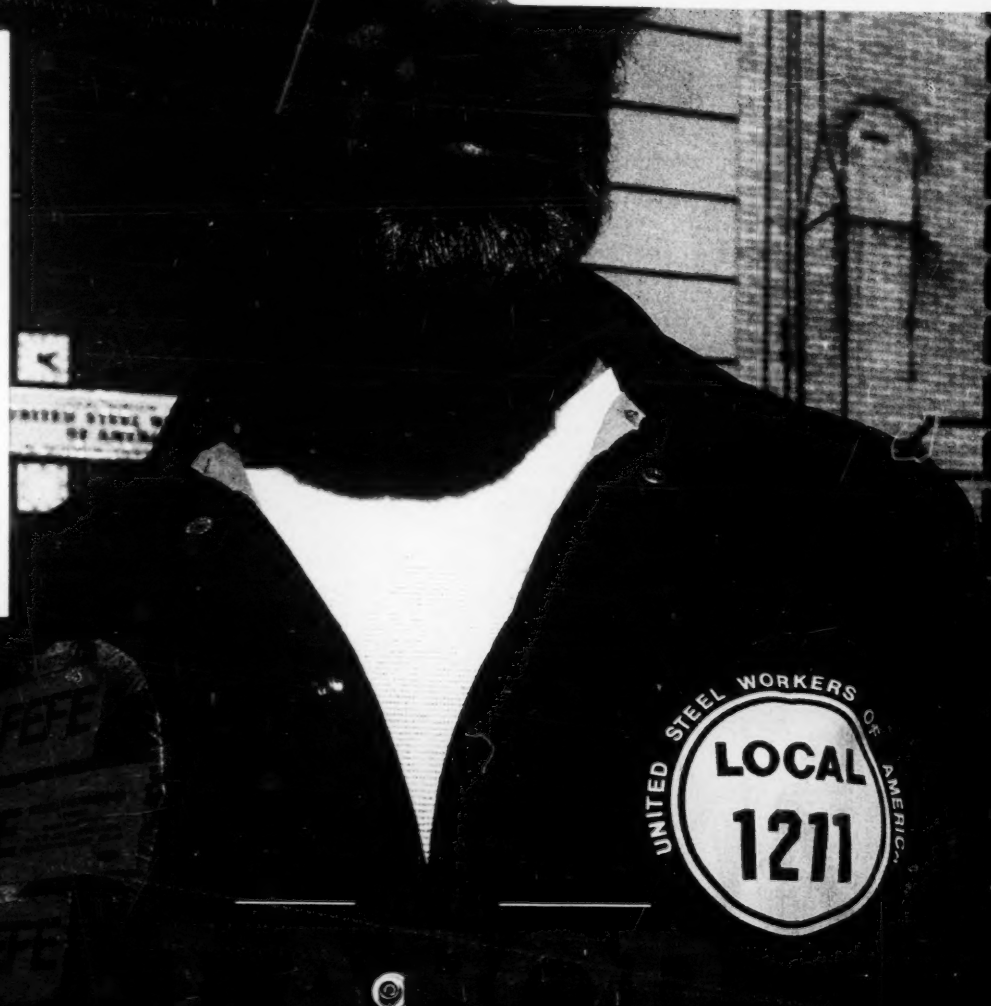

HI-TECH REPORT: MICROALLOYING IN HSLA STEEL

NEW TECHNIQUE PINPOINTS WHAT IS CRITICAL TO JOB SUCCESS

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VOL. 226, NO. 5

IRON AGE

FEBRUARY 16, 1983

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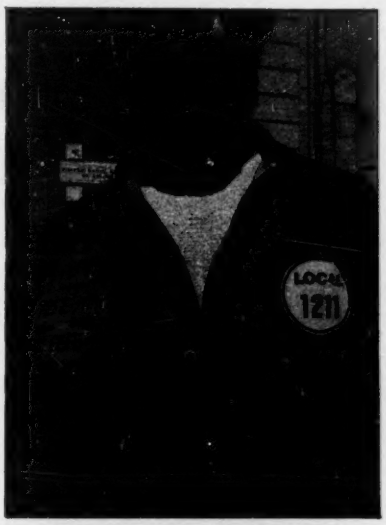

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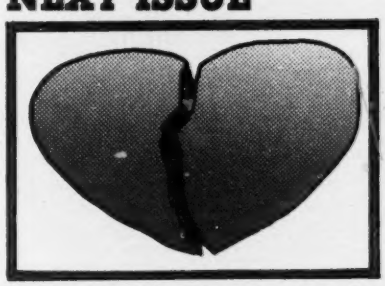

The Love/Hate Response to Automation

IRON AGE (ISSN 0164-5137) is published 36 times a year with a frequency of every 10 days appearing on a Monday-Wednesday-Friday cycle of every month by CHILTON COMPANY, Chilton Way, Radnor, PA 19089. Chilton Co. is a division of American Broadcasting Companies, Inc., New York, N.Y. Second Class Postage Paid at Wayne, PA 19087 and additional mailing offices. IRON AGE is sent on a controlled free basis to qualified managers in U.S. metalworking companies. Non-metalworking companies, services, government, institutions, schools and colleges, $55 one year. Canada, $55 year. Foreign, $65 one year. Single copies, $2.50. Cable Chilton, Philadelphia.
Send address changes to IRON AGE, P.O. Box 2040, Radnor, PA 19089

STEEL, NONFERROUS
DEEP IN RED INK

For American steelmakers, 1982 was the worst year in the industry's history. Nonferrous producers saw their profits take a steep slide.

BY GEORGE J. MCMANUS AND ROBERT J. REGAN

Steel

Last year was the worst in the recorded financial history of the steel industry.

With some returns still to come, the industry's losses for the year came to more than $3 billion.

That included some huge write-offs, as well as profits from non-steel operations.

Leaving aside both the write-offs and the outside profits, there is no question the steel industry lost a bundle in 1982.

To find anything remotely like last year, you have to go back to 1938 when the steel industry operated under 40 pct and lost $14.9 million. The previous record for deficits was set in 1933 when the steel industry operated at 33 pct and lost $59.7 million. Steel operations fell to 19 pct in 1932, but the financial records of the American Iron & Steel Institute don't go back that far.

The dollar comparisons are distorted by inflation, but it is no exaggeration to say steel conditions last year were comparable to those in the Great Depression.

This was literally true for the steel operations of United States Steel Corp. "Steel suffered an operating loss of $852 million due to shipments at the lowest level since 1938," said David M. Roderick, chairman of U. S. Steel.

Mr. Roderick cited the "virtual collapse of the market for tubular products, record penetration of domestic markets by unfairly priced imports and continued escalation of labor costs."

The market collapse dropped steel operations below 50 pct for the year. In the last four months of 1982, steel output averaged under 40 pct of capacity. The industry operated well below breakeven, and strenuous price cutting made things a little tougher.

The total effect was disastrous. U. S. Steel reported net losses of $361 million for the year and $363 million for the fourth quarter. The operating loss on steel was balanced by Marathon Oil's operating income of $1.2 billion. On the other hand, the money borrowed to acquire Marathon boosted U. S. Steel's interest charges to $911 million.

Bethlehem Steel Corp. reported a loss of nearly $1.5 billion for the year and more than $1.1 billion for the fourth quarter. These numbers reflected write-off charges of more than $1 billion for the year and over $900 million for the quarter.

Inland Steel Co. lost over $118 million in 1982. That was Inland's first full year loss since 1932. Republic Steel Corp. has a loss of $238 million for the year. Republic's fourth quarter loss was down from the third quarter.

These returns reflected "one of the most depressed years on record," said E. Bradley Jones, chairman of Republic.

Wheeling-Pittsburgh Steel Corp., with the lowest shipments in its history, lost more than $58 million in 1982. Wheeling-Pittsburgh was able to negotiate wage concessions with the United Steelworkers of America (USWA).

Armco Inc. reported a loss of $345 million for the year. Of this, $265 million was due to special charges from plant shutdowns and other adjustments. Armco benefited from the profits of its oilfield and fabricating operations. The company noted that both of these had slipped into the red by the fourth quarter of last year.

National Steel Corp. followed the lead of Bethlehem in taking a licking on write-offs in a period that was bad to start with. In the fourth quarter, National had a pre-tax charge of $286 million from the expected sale of Weirton Steel to employees. The sale hasn't been completed, but National doesn't expect any snags.

"The broad outlines of a potential agreement are clear enough at this time to reflect the anticipated impact of the Weirton sale in National's 1982 results," said Howard M. Love, chairman.

Along with a $60 million write-off for facilities permanently closed, the Weirton charge gave National a net loss of $282 million in the fourth quarter. For all of 1982, the company had a loss of $462.8 million. The loss would have been greater had it not been for a pre-tax gain of $106 million from inventory reductions.

By taking their lumps on special charges in 1982, National, Bethlehem and others have cleared the decks for what they hope will be a profit recovery in 1983. "We expect a modest recovery in the economy, mainly during the second half of 1983, but the first half of the year will be difficult," said Mr. Love.

Cyclops Corp. reported losses of $6.5 million for the fourth quarter and $11.9 million for all of 1982. Cylcops took a

Steel's Fourth Quarter: A New Bottom

In Millions of Dollars

	Earnings		Sales		Pct
	1982	1981	1982	1981	Change
USS	(363.00)	102.00	4,281.00	3,284.00	+30
Bethlehem	(1,146.90)	31.10	1,029.30	1,639.30	−37
LTV	(98.10)	115.90	907.40	1,729.40	−48
Republic	(60.63)	21.71	520.09	975.03	−47
Armco	(183.00)	70.10	1,112.00	1,794.00	−38
National	(282.00)	16.80	663.60	934.11	−29
Inland	(31.46)	(1.64)	624.16	816.27	−24
Total	(2,165.11)	355.97	9,137.54	11,172.11	−18

Steel: A Lopsided Balance Sheet

In Millions of Dollars

	1982 E/S	Earnings 1982	Earnings 1981	Earnings Pct Change	Sales 1982	Sales 1981	Sales Pct Change
USS	—	(361.00)	1,077.00	—	18,907.00	13,941.00	+36
Bethlehem	—	(1,469.60)	210.90	—	5,260.30	7,298.00	−28
LTV	—	(154.90)	386.30	—	4,776.80	7,053.70	−32
Republic	—	(239.22)	190.09	—	2,738.16	4,382.07	−38
Armco	—	(345.00)	294.50	—	5,428.00	6,906.00	−21
National	—	(462.80)	86.10	—	3,090.00	4,160.00	−26
Inland	—	(118.80)	57.26	—	2,807.60	3,754.94	−25
Total	—	(3,151.32)	2,302.15	—	43,007.86	47,495.71	−9.4
Wheel.-Pgh.	—	(58.77)	60.06	—	755.08	1,151.11	−34
Lukens	0.4	1.48	10.63	−86	389.70	405.72	−4
CF&I	—	(23.50)	39.23	—	362.84	723.77	−50
Quanex	—	(17.02)	31.44	—	348.30	416.76	−16
Laclede	—	(8.11)	3.94	—	178.22	252.72	−29
Carpenter*	—	(0.61)	6.70	—	88.39	116.30	−24
Florida*	—	(1.52)	(3.49)	—	50.33	66.83	−25
Interlake	0.8	5.80	46.60	−88	767.30	1,020.00	−25
Cyclops	—	(11.90)	21.40	—	873.20	1,000.00	−13

*Fourth Quarter Only ( ) Parentheses indicate loss

$2.3 million write-off on its steel plant at Portsmouth, Ohio. The plant has been closed for several years and a proposed sale fell through.

"Overall, the losses in the steel segment of our business in the fourth quarter and the year overshadowed profitable results in non-residential construction and specialty retailing," said William H. Knoell, Cyclops president.

The severity of the 1982 depression was brought out when Florida Steel Corp., one of the most successful of the mini-mills, suffered a loss. For the fiscal year ending in September, Florida Steel had a loss of $8.3 million. In the quarter ending Dec. 31, the company lost $1.5 million.

"There's more optimism going around," said Edward L. Flom, chairman of Florida Steel. "We don't see that light at the end of the tunnel, but we are optimistic about our emerging a strong and more profitable company than we are today."

There are some positive elements in the steel outlook. Steel shipments will rise from under 13 million tons in the fourth quarter of 1982 to 14.5 million or 15 million tons in the first quarter of 1983. The indicated first quarter volume won't make anyone rich, but it at least suggests the market has turned upward.

After more than a year of discounting, the mills have been able to put through base price increases for sheet and bars. That doesn't mean the discounting has ended, but the concessions will be made from a higher starting point.

Steel imports fell to 1.09 million tons in December. That was the lowest total for the year. With domestic shipments also down, however, December imports accounted for more than 20 pct of U.S. supply. For all of 1982, imports of 16.6 million tons were more than 22 pct of domestic supply.

All sides hope the steel labor situation will be resolved in the near future. Two management attempts to secure wage concessions were unsuccessful in 1982. However, the last proposal, in November of last year, was endorsed by Lloyd McBride, president, USWA. Mr. McBride has reduced the size of the conference that rejected the November contract.

Nonferrous

About the best thing that can be said for 1982 as far as the nonferrous metals business is concerned, is that it will be an easy year to mark progress against during 1983—although not right away.

A lot of the headaches that plagued the nonferrous metals producers last year—under consumption, bloated inventories, prices below cost of production in most cases, and excess foreign-produced metal around—were carried over into 1983.

These helped splash red ink across a broad spectrum of the nonferrous industries, particularly during the fourth quarter, covering aluminum, copper, nickel and other metals almost without exception.

Fourth quarter net income of North America's four aluminum giants, Alcoa, Alcan, Reynolds Metals and Kaiser Aluminum, fell a combined $236.9 million and would have fallen further except for some extraordinary gains.

Deepening production cuts pulled U.S. primary aluminum output down 27 pct to 3.61 million tons—lowest since 1968—but the producers' inventory situation was a lot slower to respond and the price structure reacted accordingly. The industry's nominal price of 76¢ a lb for primary unalloyed ingot at the start of 1982 got a lot more nominal as the year progressed and most of the rest of the product price list didn't fare much better. Exceptions included rigid container sheet, but even there, sufficient weakness forced a rollback of an early 1982 attempt to raise prices on the industry's biggest volume product.

London Metal Exchange (L.M.E.) prices for primary aluminum kept the ingot price weakness under the spotlight for most of the year. L.M.E. warehouse stocks rose with a big helping of East-bloc metal that was still doing its bit to keep the pressure on as 1983 got under way.

Alcoa Chairman W. H. Krome George noted that the price of primary aluminum "appears to be firming and we are seeing a slight improvement in order rates. Assuming these trends continue, we can expect a slow, modest recovery in 1983."

Alcan Chairman David M. Culver said recent weeks have seen some signs of improvement in business conditions, particularly in the U.S. automotive and housing markets, but "it is still too early to forecast whether these signals are a firm indication of a recovery from the extremely poor business conditions evi-

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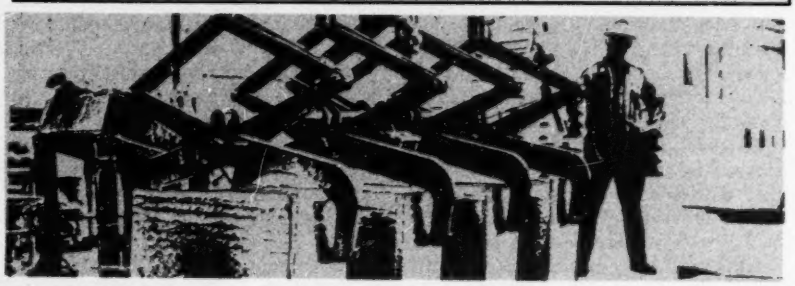
Nonferrous Profits: Less and Less in The Till

In Millions of Dollars

	4th Q '82	4th Q '81	12 months '82	12 months '81
Alcan	(60.0)	26.0	(58.0)	264.0
Alcoa	(33.7)	32.3	10.8	296.2
Falconbridge	(29.3)	(26.2)	(85.3)	(9.0)
Hecla Mining	7.1	0.2	5.1	(1.1)
Inslico	4.4	7.3	14.8	34.1
Kaiser Aluminum	(123.4)	(16.0)	(115.0)	132.9
Martin Marietta	(2.4)	38.6	91.6	200.1
Newmont Mining	17.4	9.9	48.6	375.6
Olin	(3.3)	13.8	53.3	92.8
Oremet	0.2	4.3	6.5	31.2
Phelps Dodge	(9.5)	12.4	(74.3)	69.3
Reynolds Metals	(19.8)	21.1	7.7	86.7
Vulcan Materials	8.1	18.0	54.7	78.2

Alcoa: Net for full year 1982 is after $12.4 million gain from sale of real estate and $19.9 million gain from exchange of stock for debentures. **Falconbridge:** Canadian funds. **Hecla Mining:** Net income for fourth quarter and full year 1981 is after extraordinary credit of $1.93 million from tax-loss carry-forward. **Inslico:** Results for 1981 include gains of $11.8 million in the year and $503,000 in the quarter from sales of Times Fiber common stock. Net for 1982 is after losses of $489,000 in the quarter and $10.9 million in the year from discontinued operations. Net for 1981 includes a gain of $1.96 million from discontinued operations in the fourth quarter and a loss of $5.6 million from same for the year. **Kaiser Aluminum:** Net losses for fourth quarter and full year 1982 include a $14.3 million gain from sale of interest in Comalco Ltd., a net change of $15 million from settlement of litigation and a net loss of $27.4 million from adjustment from sale of certain facilities. Net income for fourth quarter and full year 1981 includes a net gain of $17.5 million from sale of tax depreciations and investment tax credits. **Martin Marietta:** Pretax interest expense totaled $29.4 million in the fourth quarter vs $6 million in same 1981 period, reflecting heavy interest payments on debt incurred during successful rebuff of Bendix Corp. takeover attempt. **Newmont Mining:** Net for 1981 includes gain of $294.6 million from sale and exchange of shares of St. Joe Minerals Corp. and Conoco Inc. **Phelps Dodge:** Net for fourth quarter and full year 1981 includes extraordinary tax-free gain of $10.8 million recognized on exchange of common stock for debentures. **Reynolds Metals:** Net for 1982 is after $4.6 million credit from exchange of common stock for debentures and $26.8 million credit for cumulative effect on prior periods of an accounting change.



dent worldwide throughout all of 1982."

Alcan's shipments last year were up about 10 pct, but "price realizations deteriorated throughout the year, particularly on ingot sales, which were, on average, some 26 pct below 1981 levels," Mr. Culver said.

David P. Reynolds, chairman of Reynolds Metals, said the continuing worldwide recession and intense cost/price pressures eroded margins on many products and hindered the company's performance in 1982.

"We begin 1983 with sluggish demand for aluminum and excessive producer inventories.

"With these adverse conditions, we anticipate operating losses in the first half, but improving performance for the balance of the year as the general economy gains strength and the company continues its stringent cost reductions and productivity improvements," he said.

Kaiser Aluminum & Chemical's aluminum division sustained a pretax operating loss of $114 million in the fourth quarter. Cornell C. Maier, chairman, said the operating loss, which was similar to the results for the aluminum division in the third quarter, reflected weak aluminum prices, poor demand levels, higher production costs and low operating rates.

He said Kaiser doesn't see "material improvement in the aluminum business during the first six months of 1983," but anticipates "some improvement in the second half with continued economic recovery." It's still too early to tell whether recent improvement in the transportation and construction sectors signals a sustained upturn, Mr. Maier said.

Copper prices were weak throughout 1982 and began showing some signs of firmness only in the latter part of January. Domestic mine and smelter production were down sharply but, like aluminum stocks, copper producer inventories were slow to show effect. Phelps Dodge Corp., which suspended production at all its copper mines and concentrators and at its three Arizona smelters back in April 1982, dropped mine production to 150,100 tons last year from 315,700 tons in 1981. Fourth quarter production, with some help from resumption of operations at the Morenci complex, still fell to 44,100 tons from 76,400 tons in the same 1981 period.

Phelps Dodge noted that the average producer price for copper cathodes fell to 72.8¢ a lb last year from 84.2¢ a lb in 1981. The average price in the fourth quarter of 1982 was only 70.6¢ a lb.

The copper company said late in January that it had no immediate plans to resume production at other shut-down mines in Ajo, Ariz. and Tyrone, N.M., although the matter remains under continuing review.

Late January improvement in copper prices began on the hedge markets in New York and London, where traders saw copper prices a bit undervalued, while the U.S. automotive and housing markets were showing some signs of picking up.

While copper producer and hedge market stocks were still rising as 1982 came to an end, consumer inventories were being held at minimal levels. High interest rates encouraged consumers to let their suppliers handle the inventory maintenance chore last year, but interest rates were showing signs of heading lower as 1983 began and this raised the possibility that users might stock up a bit. The U.S. copper producers face another round of wage negotiations this spring; this also may prod some inventory building late in the current period.

Production of nickel, molybdenum, lead and zinc also declined last year and is likely to remain down for at least much of the first half of this year. Low prices on these metals reflected low consumption levels, excess stocks and, in the case of nickel particularly, low-priced offerings from merchants and dealers.

Revere Copper and Brass Inc. said its fourth quarter 1982 results will reflect a provision for reserves approximating $99.8 million. This figure includes $88.3 million applicable to the company's Scottsboro, Ala., aluminum reduction plant, where operations were suspended indefinitely in June 1982.

Despite some recent improvement in free-market aluminum prices, the selling price for primary aluminum remains substantially below the estimated cost of production at Scottsboro, said Revere President William F. Collins. □

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EFFECTIVE JANUARY 31, 1983

MATERIALS NEWSFRONT

Price & Production Data

Steel production by districts, thousands of tons (000 omitted)

	Last Week	Two Weeks Ago	Month Ago	Year Ago
North East Coast	134	158	123	205
Buffalo	34	30	31	31
Pittsburgh	149	158	127	294
Youngstown	87	82	56	109
Cleveland	93	89	48	119
Detroit	113	116	108	111
Chicago	395	381	373	477
Cincinnati	71	65	62	64
St. Louis	51	54	55	54
Southern	101	110	86	204
Western	63	70	67	110
U.S. Production	1,291	1,313	1,136	1,778

Source: American Iron & Steel Institute

Lake Superior Ore Prices

51.50% Fe Natural delivered lower Lake ports. Rail transportation, handling and unloading may be charged to the account of the buyer. Coarse ore 80¢ premium.

Pellets (per iron unit natural)..... gross-ton 80.50-86.9*
Old range, non-bessemer ..... gross-ton $32.78
Mesabi, regular-unscreened ..... gross-ton $32.53
Mesabi, non-bessemer.....gross-ton $32.25-32.53**

*80.50¢—Pickands Mather as of 1/27/81.
**86.9¢—U. S. Steel as of 3/15/82. Cleveland-Cliffs as of 2/26/82, Oglebay Norton as of 3/25/82, and Hanna Mining as of 2/26/82.

Steel Production, Composite Prices

(Effective January 31, 1983)

U.S. Steel Production	Last Week	Two Weeks Ago	To Date 1983	To Date 1982
Net tons, in thousands	1,291	1,313	5,120	7,121
Capability Utilization Rate	44.5	45.3	42.6	58.4

Composite Prices	This Week	Week Ago	Month Ago	Year Ago
Finished Steel Base* (¢/lb.—eff. 2/6/83)	25.954	25.954	25.297	25.195
Pig Iron* * (Net ton=2000 lbs.)	$213.00	$213.00	$213.00	$213.00
Scrap No. 1 hvy.* * * (Gross ton=2240 lbs.)	$ 66.83	$ 61.50	$ 60.17	$ 84.50
No. 2 bundles	$ 47.17	$ 42.50	$ 41.83	$ 56.50
Scrap Comparison (Gross Ton)				
No. 1 steel, Pittsburgh .	$ 69.50	$ 62.50	$ 62.50	$ 94.50
No. 1 steel, Philadelphia	59.50	59.50	56.50	75.50
No. 1 steel, Chicago.....	71.50	62.50	61.50	83.50
No. 1 bundles, Detroit..	60.50	48.50	48.50	83.50
Low Phos., Youngstown	69.50	64.50	64.50	95.50
No. 1 mach'y cast., Pgh	66.50	61.50	61.50	93.50
No. 1 mach'y cast., Phila	98.50	98.50	98.50	111.50
No. 1 mach'y cast., Chi	109.50	106.50	104.50	124.50

*Finished Steel Composite
Weighted index of steel bars, shapes, plates, wire, rails, black pipe, hot and cold rolled sheets and strips.

* *Pig Iron Composite
Based on average prices for basic and foundry pig iron at representative producing points within the U.S.

* * *Steel Scrap Composite
Average of No. 1 hvy. melting steel scrap and No. 2 bundles delivered to consumers at Pittsburgh, Philadelphia and Chicago.

Nonferrous Prices

(Effective January 31, 1983)
Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated.

Primary Metal Prices

(cents per lb.)	current price	last price	date of change
Aluminum	76.00 (Nom.)	76.00-80.00	1/4/82
Copper (C)	78.00-79.00	77.00-79.00	1/28/83
Lead	21.50-23.00	21.00-23.00	1/28/83
Magnesium Ingot	134.00	125.00	6/1/81
Nickel	329.00	350.00	11/25/81
Titanium Sponge	555.00-585.00	555.00	4/29/82
Zinc	40.00	38.00-40.00	1/11/83

ALUMINUM: 99.5%. COPPER (C) = cathode. LEAD: common grade. MAGNESIUM: 99.8% pig, Velasco, Tex. NICKEL: electro., Port Colborne, Canada. ZINC: high grade.

Antimony, American Laredo, Texas . $2.00
Beryllium-aluminum 5% Be, per lb. contained Be $201.00
Beryllium-copper, per lb. cont. Be $121.00
Beryllium 97% powder 200 ..... $166.00
Bismuth, ton lots ..... $1.25-$1.40
Cadmium, under one ton ..... $1.05-$1.15
Calcium, ton lots, crown $3.05
Chromium, 99.8% $3.75
Cobalt, 99%, cathode $12.50
Gold per troy oz. $499.50
Indium, dollars per troy oz..... $2.60-$2.85
Iridium, dollars per troy oz..... $600
Magnesium sticks, 10,000 lbs. $1.91
Mercury, per 76-lb. f.o.b. N.Y. ..$340-$365
Molybdenum, lb. tech. moly oxides, 20 lb. MO can $5.85
Nickel oxide sinter at U.S. points of entry $3.12
Palladium, per troy oz. $140
Platinum, per troy oz. $475
Rhodium, per troy oz. $600.00
Silver ingots, per troy oz..... $13.86
Vanadium $4.94
Zirconium sponge..... $12.00-$17.00
(Per lb. unless otherwise noted)

Straits Tin Price

(U.S. cents per lb, EX-SMELTER, based on daily market in Penang in Malaysian dollars per kilo.)

Jan. 24—578.21 Jan. 27—580.59
Jan. 25—580.46 Jan. 28—581.65
Jan. 26—579.40

Scrap Prices

Brass Mill Scrap

(Cents per lb; over 20,000 lbs. add 1¢ per lb)

	Solids	Turning
Copper	75⅛	66¼
Yellow brass	63⅛	59⅛
Red brass	69	62⅝
Comm. bronze	70⅞	64
Mang. bronze	62¼	59⅞
Free cutting rod ends	47	46

Custom Smelters Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	65
No. 2 copper wire	58
Light copper	49

Ingot Makers Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	61
No. 2 copper wire	54
Light copper	45
No. 1 composition	51
No. 1 comp. turnings	48
Hvy. yellow brass solids	35
Hvy. yellow brass turnings	26
Radiators	42

Aluminum

New mixed clips	28	—29
Old sheet	26	—27
Old cast	26	—27
Clean dry borings	27	—28

Dealers' Scrap

(Dealers' buying price f.o.b. New York in cents per pound)

Aluminum

Segregated clippings	23	—24
Mixed L.C. clips	21	—22
Old sheets and cast	15	—16
Borings and turnings	11	—12
Duraluminum clippings	20	—21

Copper and Brass

No. 1 copper wire	50	—51
No. 2 copper wire	43	—44
Light copper	37	—38
Radiators	35	—36
No. 1 composition	42	—43
No. 1 composition turn'gs	40	—41
Cocks and faucets	29	—30
Clean heavy yellow brass	27	—28
Brass Pipe	29	—30
New soft brass clippings	36	—37

Lead

Heavy soft lead	9	—10
Whole batteries	4	— 5
Type metal	14	—15
Electrotype	18	—19

Nickel

Nickel solids	85	— 90
Nickel rod ends	85	— 90
Nickel sheets, clips	85	— 90
Nickel turnings	35	— 40

Zinc

New zinc clippings	14	—15
Old diecast zinc	7	— 8

EFFECTIVE JANUARY 31, 1983

MATERIALS NEWSFRONT

(Effective January 31, 1983) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated. Prices are the opinions of *Iron Age* editors and correspondents, based on contacts with dealers, brokers, generators and users in the industry on the effective date listed above.

Ferrous Scrap Prices

Pittsburgh

No. 1 hvy. melting	$ 69.00 to	$ 70.00
No. 2 hvy. melting	59.00 to	60.00
No. 1 dealer bundles	81.00 to	82.00
No. 1 factory bundles (auto)	83.00 to	84.00
No. 2 bundles	49.00 to	50.00
No. 1 busheling	79.00 to	80.00
Machine shop turn.	6.00 to	7.00
Shoveling turnings	20.00 to	21.00
Cast iron borings	18.00 to	19.00
Low phos. punchings plate	84.00 to	85.00
Heavy turnings	59.00 to	60.00
No. 1 RR hvy. melting	76.00 to	77.00
Rails 2 ft. and under	85.00 to	86.00
Scrap rails, random lgth.	80.50 to	81.50
RR specialties	78.00 to	79.00
No. 1 machinery cast	66.00 to	67.00
Cupola cast	59.00 to	60.00
Heavy breakable cast	30.00 to	31.00
Stainless		
18-8 bundles and solids	440.00 to	450.00
18-8 turnings	340.00 to	350.00

Chicago

No. 1 hvy. melting	$ 71.00 to	$ 72.00
No. 2 hvy. melting	62.00 to	63.00
No. 1 dealer bundles	77.00 to	78.00
No. 1 factory bundles (auto)	79.00 to	80.00
No. 2 dealer bundles	49.00 to	50.00
No. 1 busheling	76.00 to	77.00
Shredder scrap	74.00 to	75.00
Machine shop turn.	14.00 to	15.00
Mixed bor. and turn.	15.00 to	16.00
Shoveling turnings	19.00 to	20.00
Cast iron borings	33.00 to	34.00
Low phos. forge crop	85.00 to	86.00
Low phos. punchings plate ¼ in. and heavier	90.00 to	91.00
Low phos. 2 ft. and under	85.00 to	86.00
No. 1 RR hvy. melting	74.00 to	75.00
Scrap rails, random lgth.	69.00 to	70.00
Reroller rails	95.00 to	96.00
Rails, 2 ft. and under	89.00 to	90.00
RR couplers and knuckles	79.00 to	80.00
RR car axles	104.00 to	105.00
No. 1 machinery cast	109.00 to	110.00
Cupola cast	94.00 to	95.00
Stove plate	84.00 to	85.00
Steel car wheels	79.00 to	80.00
Stainless		
18-8 bundles and solids	410.00 to	420.00
18-8 turnings	310.00 to	320.00
430 bundles and solids	90.00 to	95.00
430 turnings	65.00 to	70.00

Philadelphia

No. 1 hvy. melting	$ 58.00 to	$ 61.00
No. 2 hvy. melting	51.00 to	54.00
No. 1 dealer bundles	73.00 to	76.00
No. 2 dealer bundles	41.00 to	44.00
No. 1 busheling	73.00 to	76.00
Shredder scrap	70.00 to	73.00
Machine shop turn.	19.00 to	22.00
Mixed bor. and turn.	19.00 to	22.00
Shoveling turnings	34.00 to	37.00
Clean cast chemical borings	40.00 to	43.00
Low phos. 5 ft. and under	69.00 to	72.00
Low phos. 2 ft. punchings	85.00 to	88.00
Electric furnace bundles	85.00 to	88.00
RR specialties	74.00 to	77.00
Rails, 2 ft. and under	89.00 to	92.00
Cupola cast	56.00 to	59.00
Heavy breakable cast	53.00 to	56.00
No. 1 machinery cast	97.00 to	100.00

Detroit

Broker buying prices per gross ton on cars:

No. 1 hvy. melting	$ 51.00 to	$ 52.00
No. 2 hvy. melting	49.00 to	50.00
No. 1 dealer bundles	60.00 to	61.00
No. 2 bundles	30.00 to	31.00
No. 1 busheling	59.00 to	60.00
Drop forge flashings	37.00 to	38.00
Machine shop turn.	21.00 to	22.00
Mixed borings and turn.	11.00 to	12.00
Shoveling turnings	21.00 to	22.00
Cast iron borings	10.00 to	11.00
Heavy breakable cast	29.00 to	30.00
Mixed cupola cast	45.00 to	46.00
Automobile cast	65.00 to	66.00
Stainless		
18-8 bundles and solids	355.00 to	365.00
18-8 turnings	235.00 to	245.00
430 bundles and solids	85.00 to	95.00

Youngstown

No. 1 hvy. melting	$ 64.00 to	$ 65.00
No. 2 hvy. melting	59.00 to	60.00
No. 1 dealer bundles	76.00 to	77.00
No. 2 dealer bundles	39.00 to	40.00
Machine shop turn.	2.00 to	3.00
Shoveling turnings	7.00 to	8.00
Low phos. plate	69.00 to	70.00
Electric furnace bundles	75.00 to	76.00
Galvanized bundles	65.00 to	66.00

Cleveland

No. 1 hvy. melting	$ 67.00 to	$ 68.00
No. 2 hvy. melting	29.00 to	30.00
No. 1 dealer bundles	72.00 to	73.00
No. 1 factory bundles	81.00 to	82.00
No. 2 bundles	24.00 to	25.00
No. 1 busheling	72.00 to	73.00
Machine shop turn.	2.00 to	3.00
Mixed bor. and turn.	2.00 to	3.00
Shoveling turnings	5.00 to	6.00
Cast iron borings	5.00 to	6.00
Cut structural & plates, 2 ft. and under	87.00 to	88.00
Low phos. punchings plate	87.00 to	88.00
Drop forge flashings	33.00 to	34.00
Foundry steel, 2 ft. & under	59.00 to	60.00
No. 1 RR hvy melting	63.00 to	64.00
Rails, 2 ft. and under	89.00 to	90.00
Rails, 18 in. and under	90.00 to	91.00
Steel axle turnings	69.00 to	70.00
Railroad cast	82.00 to	83.00
No. 1 machinery cast	79.00 to	80.00
Cupola cast	62.00 to	63.00
Stove plate	47.00 to	48.00
Stainless		
18-8 bundles	275.00 to	285.00
18-8 turnings	225.00 to	235.00
430 bundles	75.00 to	85.00

Buffalo

No. 1 hvy. melting	$ 25.00 to	$ 26.00
No. 2 hvy. melting	15.00 to	16.00
No. 1 busheling	30.00 to	31.00
No. 1 dealer bundles	28.00 to	29.00
No. 2 bundles	12.00 to	13.00
Machine shop turn.	1.00 to	2.00
Mixed bor. and turn.	8.00 to	9.00
Shoveling turnings	10.00 to	11.00
Cast iron borings	8.00 to	9.00
Low phos. plate	48.00 to	49.00
Structural and plate, 2 ft. and under	46.00 to	47.00
Rails, 2 ft. and under	42.00 to	43.00
Scrap rails, random lgth.	22.00 to	23.00
No. 1 machinery cast	63.00 to	64.00
No. 1 cupola cast	42.00 to	43.00

St. Louis

No. 1 hvy. melting	$ 52.00 to	$ 53.00
No. 2 hvy. melting	44.00 to	45.00
Foundry steel, 2 ft.	44.00 to	45.00
No. 1 dealer bundles	52.00 to	53.00
No. 2 bundles	41.00 to	42.00
Machine shop turn.	12.00 to	13.00
Shoveling turnings	18.00 to	19.00
Cast iron borings	30.00 to	31.00
No. 1 RR hvy. melting	52.00 to	53.00
Rails, random length	49.00 to	50.00
Rails, 18 in. and under	64.00 to	65.00
RR specialties	80.00 to	81.00
Cupola cast	70.00 to	71.00
Heavy breakable cast	48.00 to	49.00
Stove plate	70.00 to	71.00
Cast iron car wheels	49.00 to	50.00
Rerolling rails	84.00 to	85.00
Unstripped motor blocks	55.00 to	56.00

Birmingham

No. 1 heavy melting	$ 56.00 to	$ 57.00
No. 2 heavy melting	52.00 to	53.00
No. 1 dealer bundles	56.00 to	57.00
No. 2 bundles	40.00 to	41.00
No. 1 busheling	54.00 to	55.00
Shredder scrap	69.00 to	70.00
Machine shop. turn.	18.00 to	19.00
Shoveling turnings	25.00 to	26.00
Cast iron borings	26.00 to	27.00
Electric furnace bundles	53.00 to	54.00
Elec. furnace, 3 ft. & under	50.00 to	51.00
Structural and plate, 2 ft.	70.00 to	71.00
Structural and plate, 4 ft.	69.00 to	70.00
No. 1 RR hvy. melting	55.00 to	56.00
Scrap rails, random lgth.	57.00 to	58.00
Rails, 18 in. and under	75.00 to	76.00
Angles and splice bars	67.00 to	68.00
No. 1 cupola cast	74.00 to	75.00
Unstripped motor blocks	52.00 to	53.00

Cincinnati

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 43.00 to	$ 44.00
No. 2 hvy. melting	42.00 to	43.00
No. 1 dealer bundles	44.00 to	45.00
No. 2 bundles	27.00 to	28.00
Machine shop turn.	3.00 to	4.00
Shoveling turnings	6.00 to	8.00
Cast iron borings	8.00 to	9.00
Low phos. 18 in. and under	68.00 to	69.00
Rails, random length	50.00 to	51.00
Rails, 2 ft. and under	72.00 to	73.00
No. 1 cupola cast	60.00 to	61.00
Heavy breakable cast	24.00 to	25.00
Drop broken cast	64.00 to	65.00

New York

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 29.00 to	$ 30.00
No. 2 hvy. melting	25.00 to	27.00
No. 2 dealer bundles	22.00 to	23.00
Mixed bor. and turn.	7.00 to	8.00
Machine shop turn.	4.00 to	5.00
Shoveling turnings	10.00 to	12.00
Clean cast. chem. borings	34.00 to	35.00
No. 1 machinery cast	89.00 to	90.00
Mixed yard cast	38.00 to	39.00
Heavy breakable cast	14.00 to	15.00
Stainless		
18-8 prepared solids	375.00 to	400.00
18-8 turnings	260.00 to	280.00
430 prepared solids	70.00 to	80.00
410 solids	60.00 to	70.00

Boston

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 30.00 to	$ 32.00
No. 2 hvy. melting	20.00 to	22.00
No. 1 dealer bundles	34.00 to	36.00
No. 2 bundles	18.00 to	20.00
No. 1 busheling	34.00 to	36.00
Shredder scrap	38.00 to	40.00
Machine shop turn.	1.00 to	2.00
Shoveling turnings	1.00 to	2.00
No. 1 machinery cast	100.00 to	105.00
Mixed cupola cast	23.00 to	25.00
Heavy breakable cast	4.00 to	6.00

San Francisco

No. 1 hvy. melting	$ 39.00 to	$ 41.00
No. 2 hvy. melting	31.00 to	33.00
No. 1 dealer bundles	26.00 to	28.00
No. 2 dealer bundles	11.00 to	13.00
Machine shop turn.	4.00 to	6.00
Cast iron borings	4.00 to	6.00
No. 1 cupola cast	83.00 to	85.00

Los Angeles

No. 1 hvy. melting	$ 38.00 to	$ 40.00
No. 2 hvy. melting	27.00 to	29.00
No. 1 dealer bundles	25.00 to	27.00
No. 2 dealer bundles	8.00 to	10.00
Machine shop turn.	4.00 to	6.00
Shoveling turnings	8.00 to	10.00
Cast iron borings	4.00 to	6.00
Elec. furnace, 1 ft. and under (foundry)	84.00 to	86.00
No. 1 cupola cast	86.00 to	88.00

Seattle

No. 1 hvy. melting	$ 53.00 to	$ 55.00
No. 2 hvy. melting	42.00 to	44.00
No. 2 bundles	32.00 to	34.00
No. 1 cupola cast	88.00 to	90.00
Mixed yard cast	78.00 to	80.00

Hamilton, Ont.

Brokers buying price per net ton on cars:

No. 1 heavy melting	$ 33.00
No. 2 heavy melting cut 2 ft. and under	30.00
No. 1 dealer bundles	40.00
No. 2 bundles	5.00
Mixed steel scrap	17.00
Bush. new fact. prep'd.	38.00
Bush. new fact. unprp'd.	30.00
Machine shop turn.	18.00
Short steel turn.	21.00
Mixed bor. and turn.	10.00
Cast scrap	30.00

Houston

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 52.00 to	$ 53.00
No. 2 hvy. melting	40.00 to	41.00
No. 2 bundles	28.00 to	30.00
Machine shop turn.	12.00 to	13.00
Crushed turnings	24.00 to	26.00
Shredder scrap	52.00 to	53.00
Cut structural plate 2 ft. and under	74.00 to	76.00
Unstripped motor blocks	55.00 to	57.00
Cupola cast	64.00 to	66.00

METALWORKING ORDER TRENDS

Defense orders soar, but a broader-based pickup is needed

Defense business came on like the Kemper Cavalry in December and saved the day for durable goods new orders.

In the last month of the year, these orders rose by 11.5 pct from November to $78.7 billion. That was, by far, the strongest monthly orders increase for the entire year.

But there was a sort of Catch 22 to the great December orders showing. Some 85 pct of the gain was due to an open-the-dam release of defense-related orders. Orders for Naval work on ships and for military tanks rose by $4.4 billion. Orders for military aircraft, missiles and parts rose by $2.0 billion. Also, orders for defense-related communication equipment went up by $500 million.

All-in-all, the military accounted for some $7.0 billion of the $8.1 billion rise in December orders for durable goods.

Defense orders cannot be counted on to repeat that strong showing in months to come. These orders are the most volatile element in the durable goods orders spectrum. They might be up only a tad in January—or up a lot. Then again, they may fall like a rock. That's the way it is with defense orders.

Still, the December $7.4 billion rise in backlogs of unfilled defense capital goods orders will help many metalworking companies in the months ahead as sub-contracts are let out. This is needed help. The backlog of nondefense orders itself has been in a slide since hitting a peak in January 1981 when the volume was 27 pct greater than at the close of December 1982.

The great weakness last year in heavy goods manufacturing shows in clear perspective when its order levels are compared with U.S. overall economic growth—the gain in current dollar Gross National Product. GNP rose an estimated 4.2 pct last year; durables new orders fell by 10.2 pct.

The lag may well go on a bit longer. As shown in December, no broadly-based upward orders movement was apparent.

In fact, for all U.S. manufacturing (durables and nondurables) in December, dollar volume of new orders—excluding defense orders—were actually down by 0.1 pct.

One source of hope for an orders turnaround continues to be found in thinning inventories. Durable goods stocks were down by $1.6 billion in December, the tenth straight month of decline.

Source: U.S. Dept. of Commerce Billions of dollars, seasonally adjusted monthly total, unless otherwise noted		Latest Month or Qtr.	Previous Month or Qtr.	Same Period Year Ago
Capital Expenditures (Annual Rates)				
U.S. Industry, Total	4th Qtr.	$315.2*	$315.8	$327.8
Manufacturing, Total	4th Qtr.	120.5*	119.5	126.9
Manufacturing, Durable Goods	4th Qtr.	55.8*	57.1	60.8
Mining Industry	4th Qtr.	15.6*	14.6	16.8
Key Indicators, Durable Goods Manufacturing				
New Orders	Dec.	78.7	70.6	76.4
Shipments	Dec.	72.7	72.7	79.1
Inventories	Dec.	177.7	179.3	188.4
Unfilled Orders	Dec.	287.9	281.9	308.4
New Orders, Metalworking				
Capital Goods Producers, Nondefense Industries	Dec.	20.6	20.2	22.1
Capital Goods Producers, Defense Industries	Dec.	12.5	5.1	5.6
Primary Metals, Total	Dec.	6.9	7.5	9.4
Steel (SIC 331)	Dec.	2.5	3.1	4.9
Iron & Steel Castings (SIC 332)	Dec.	.7	.7	1.2
Nonferrous Metals	Dec.	3.7	3.7	3.7
Nonelectrical Mach.-Equip. Industries, Total	Dec.	14.1	13.0	17.6
Engines & Turbines	Dec.	.9	.9	1.7
Farm Machinery & Equipment (Shipments)	Dec.	1.0	1.1	1.2
Construction, Mining & Materials Hdlg. Equip.	Dec.	1.8	2.4	3.3
General Industrial Machinery	Dec.	1.2	1.0	1.5
Fluid Power Equipment** (Index-1972=100)	Dec.	163	170	251
Metalworking Machinery	Dec.	.6	.6	.5
Machine Tools, Total (Millions $, unadjusted)***	Dec.	121.7	88.2	151.8
Machine Tools, Metal-Cutting***	Dec.	86.6	62.8	112.6
Machine Tools, Metal-Forming***	Dec.	35.1	25.4	39.2
Electrical Mach. & Equip. Industries, Total	Dec.	12.7	12.2	11.7
Elec. Transmission Equip. & Industrial Apparatus	Dec.	1.7	1.8	1.9
Household Appliances	Dec.	1.0	1.1	1.0
Communication Equipment	Dec.	4.8	4.3	3.4
Transportation Equip. Industrial, Total	Dec.	21.5	14.6	16.1
Motor Vehicles & Parts (Shipments)	Dec.	8.4	8.1	10.0
Aircraft, Missiles & Parts	Dec.	7.2	5.2	4.7
Shipbuilding & Military Tanks	Dec.	5.3	.9	.6
Fabricated Metal Products, Total	Dec.	8.5	8.2	9.3
Instruments, Total	Dec.	3.7	3.8	4.1

*Est.—Commerce Dept.; **Source: National Fluid Power Assn.; ***Source: NMTBA.